

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Previously Presented) An exhaust treatment device, comprising:

a substrate;

a 1- catalyst layer deposited on the substrate, the catalyst layer comprising a first catalyst metal and a second catalyst metal, as a combined loading on a support forming a mixed layer of said first and said second catalyst metal, wherein greater than or equal to about 70 wt% of the first catalyst metal and the second catalyst metal is non-alloyed under alloying conditions, wherein the weight percent is based on a combined weight of the first catalyst metal and the second catalyst metal; and

wherein the first catalyst metal and the second catalyst metal are different and individually selected from the group consisting of platinum, palladium, rhodium, iridium, rhenium, ruthenium, and osmium,

wherein the catalyst layer further comprises an aluminum oxide and an oxygen storage component, wherein the aluminum oxide and the storage component have average pore diameters of about 150Å to about 1,000 Å, and

wherein the oxygen storage component is represented by the formula

$(\text{Ce}_a\text{Zr}_b\text{La}_c\text{Y}_d\text{Pr}_e\text{O}_x)$, wherein subscripts a, b, c, d, e, and x, represent atomic fractions, and wherein $a + b + c + d + e = 1$.

2. (Original) The exhaust treatment device of Claim 1, wherein the first catalyst metal is palladium and the second catalyst metal is rhodium.
3. (Original) The exhaust treatment device of Claim 2, wherein greater than 90 wt% of the first catalyst metal and the second catalyst metal is non-alloyed.
4. (Original) The exhaust treatment device of Claim 3, wherein greater than 95 wt% of the first catalyst metal and the second catalyst metal is non-alloyed.
5. (Original) The exhaust treatment device of Claim 2, wherein a weight ratio of the palladium to the rhodium is less than or equal to about 20:1.
6. (Previously Presented) The exhaust treatment device of Claim 5, wherein the ratio is about 3:1 to about 15:1.
- 7.-8. (Cancelled)
9. (Previously Presented) The exhaust treatment device of Claim 1, wherein the aluminum oxide comprises gamma aluminum oxide.
- 10.-11. (Cancelled)
12. (Previously Presented) The exhaust treatment device of Claim 1, wherein the oxygen storage component comprises $\text{Ce}_{0.376}\text{Zr}_{0.50}\text{La}_{0.086}\text{Pr}_{0.038}\text{O}_{1.95}$ or $\text{Ce}_{0.25}\text{Zr}_{0.65}\text{La}_{0.04}\text{Y}_{0.06}\text{O}_{1.95}$.

13. (Previously Presented) The exhaust treatment device of Claim 1, wherein the oxygen storage component has a stable cubic structure.

14. (Withdrawn) A method of making an exhaust emission control device,
including a substrate;

a 1- catalyst layer deposited on the substrate, the catalyst layer comprising a first catalyst metal and a second catalyst metal, as a combined loading on a support forming a mixed layer of said first and said second catalyst metal, wherein greater than or equal to about 70 wt% of the first catalyst metal and the second catalyst metal is non-alloyed under alloying conditions, wherein the weight percent is based on a combined weight of the first catalyst metal and the second catalyst metal; and

wherein the first catalyst metal and the second catalyst metal are different and individually selected from the group consisting of platinum, palladium, rhodium, iridium, rhenium, ruthenium, and osmium,

wherein the catalyst layer further comprises an aluminum oxide and an oxygen storage component, wherein the aluminum oxide and the storage component have average pore diameters of about 150Å to about 1,000 Å, and

wherein the oxygen storage component is represented by the formula $(\text{Ce}_a\text{Zr}_b\text{La}_c\text{Y}_d\text{Pr}_e\text{O}_x)$, wherein subscripts a, b, c, d, e, and x, represent atomic fractions, and wherein $a + b + c + d + e = 1$;

the method comprising:

mixing a palladium salt, a rhodium salt, an aluminum oxide, and said oxygen

storage component together to form a slurry;

depositing the slurry on a substrate to form a washcoated substrate; and

calcining the washcoat plus substrate to form a catalyst layer on the substrate,

wherein greater than or equal to about 70 wt% of the palladium and rhodium in the catalyst layer is non-alloyed under alloying conditions, wherein the weight percent is based on a total weight of the palladium and rhodium in the catalyst.

15. (Withdrawn) The method of Claim 14, wherein greater than 95 wt% of the first catalyst metal and the second catalyst metal is non-alloyed.

16. (Withdrawn) The method of Claim 14, wherein a weight ratio of the palladium to the rhodium is less than or equal to about 20:1.

17. (Withdrawn) The method of Claim 16, wherein the ratio is about 3:1 to about 15:1.

18. (Cancelled)

19. (Withdrawn) The method of Claim 14, wherein about 50% to about 80% of the pore volume, based on the total pore volume, comprise pores having average pore diameters of about 180 Å to about 800 Å.

20. (Withdrawn) The method of Claim 14, wherein the aluminum oxide comprises gamma aluminum oxide.

21.-22. (Cancelled)

23. (Withdrawn) The method of Claim 14, wherein the oxygen storage component comprises $\text{Ce}_{0.376}\text{Zr}_{0.50}\text{La}_{0.086}\text{Pr}_{0.038}\text{O}_{1.95}$ or $\text{Ce}_{0.25}\text{Zr}_{0.65}\text{La}_{0.04}\text{Y}_{0.06}\text{O}_{1.95}$.

24. (Withdrawn) The method of Claim 14, wherein the oxygen storage component has a stable cubic structure.

25. (Previously Presented) An exhaust treatment device, comprising:

a substrate;

a catalyst layer deposited on the substrate, the catalyst layer being a mixed layer comprising palladium, rhodium, an aluminum oxide, and an oxygen storage component, wherein the aluminum oxide and the oxygen storage component have average pore diameters of about 150 angstroms to about 1,000 angstroms, wherein about 50% to about 80% of the pore volume, based on the total pore volume comprise pores having average pore diameters of about 180 angstroms to about 800 angstroms, wherein greater than or equal to about 70 wt% of the palladium and rhodium is non-alloyed under alloying conditions, wherein the weight percent is based on a combined weight of the palladium and the rhodium;

wherein the oxygen storage component is represented by the formula

$(\text{Ce}_a\text{Zr}_b\text{La}_c\text{Y}_d\text{Pr}_e\text{O}_x)$, wherein subscripts a, b, c, d, e, and x, represent atomic fractions, wherein $a + b + c + d + e = 1$; and a is from 0.01 to 0.6

a retention material disposed around the substrate to form a subassembly; and

a housing disposed around the subassembly.

26. (Previously Presented) The exhaust treatment device of Claim 1, wherein:

- a has a value of about 0.01 to about 0.6;
- b has a value of less than or equal to about 0.95;
- c has a value of less than or equal to about 0.15;
- d has a value of less than or equal to about 0.15;
- e has a value of less than or equal to about 0.15; and
- x has a value less than or equal to about 2.0.

27. (Previously Presented) An exhaust treatment device, comprising:

a substrate;

a 1- catalyst layer deposited on the substrate from a slurry, comprising a first catalyst metal and a second catalyst metal, aluminum oxide and an oxygen storage material to form a wash coat on said substrate, wherein greater than or equal to about 70 wt% of the first catalyst metal and the second catalyst metal in said 1-catalyst layer is non-alloyed under alloying conditions, wherein the weight percent is based on a combined weight of the first catalyst metal and the second catalyst metal; and

wherein the first catalyst metal and the second catalyst metal together form a mixed layer and are different and individually selected from the group consisting of platinum, palladium, rhodium, iridium, rhenium, ruthenium, and osmium,

wherein the catalyst layer further comprises an aluminum oxide and an oxygen storage component, wherein the aluminum oxide and the storage component have average pore

diameters of about 150Å to about 1,000 Å, and wherein 50% to 80% of the pore volume based on total pore volume comprise pores having average pore diameters of 180 Å to 800 Å;

wherein the oxygen storage component is represented by the formula

$(\text{Ce}_a\text{Zr}_b\text{La}_c\text{Y}_d\text{Pr}_e\text{O}_x)$, wherein subscripts a, b, c, d, e, and x, represent atomic fractions, and wherein $a + b + c + d + e = 1$ and a range from 0.01 to 0.6.

28. (Previously Presented) An exhaust treatment device, comprising:

a substrate;

a 1- catalyst layer deposited from a slurry onto the substrate to form a washcoated substrate, the catalyst layer comprising palladium as a first catalyst metal and rhodium as a second catalyst metal as a combined loading on a support as a mixed layer of Pd/Rh, wherein greater than or equal to about 70 wt% of the first catalyst metal and the second catalyst metal is non-alloyed under alloying conditions, wherein the weight percent is based on a combined weight of the first catalyst metal and the second catalyst metal; and

wherein the catalyst layer further comprises an aluminum oxide and an oxygen storage component, wherein the aluminum oxide and the storage component have average pore diameters of about 150Å to about 1,000 Å, and

wherein the oxygen storage component is represented by the formula

$(\text{Ce}_a\text{Zr}_b\text{La}_c\text{Y}_d\text{Pr}_e\text{O}_x)$, wherein subscripts a, b, c, d, e, and x, represent atomic fractions, and wherein $a + b + c + d + e = 1$;

said mixed layer formed from said slurry comprising a palladium salt, a rhodium salt, aluminum oxide and said oxygen storage component.